DOCUMENT RESUME

ED 042 248 EA 003 001

AUTHOR	Lavisky, Saul
TITLE	Faculty In-Service Training Programs and the Educational Change Process.
INSTITUTION	Human Resources Research Organization, Alexandria, Va.
REPORT NO	Professional Paper-38-69
PUB DATE	Dec 69
NOTE	18p.; Paper presented at American Association of Junior Colleges In-Service Training Personnel Workshop (Warrenton, Virginia, July, 1969)
EDRS PRICE	EDRS Price MF-$0.25 HC-$1.00
DESCRIPTORS	Change Agents, *Educational Change, Educational Needs, *Educational Objectives, *Innovation, Inservice Education, Methods, *Models, Research

ABSTRACT

In this paper the importance of improving the understanding of the change process is stressed, and some of the relevant literature on the innovation process in education is summarized. The change agent role and innovative techniques in education and training are described. (Author/RA)

ED042248

Professional Paper 38-69
December 1969

Faculty In-Service Training Programs and the Educational Change Process

by

Saul Lavisky

Presentation to Workshop for
In-Service Training Personnel
American Association of Junior Colleges
Airlie House, Warrenton, Va. July 1969

EA 003 001

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

Distribution of this document is unlimited.

HumRRO

HUMAN RESOURCES RESEARCH ORGANIZATION

The Human Resources Research Organization (HumRRO) is a nonprofit corporation established in 1969 to conduct research in the field of training and education. It is a continuation of The George Washington University Human Resources Research Office. HumRRO's general purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation.

Published
December 1969
by
HUMAN RESOURCES RESEARCH ORGANIZATION
300 North Washington Street
Alexandria, Virginia 22314

Prefatory Note

The American Association of Junior Colleges has been conducting a series of seminars for "developing" two-year, post-high school educational institutions. The author of this paper was invited to address one such seminar group, which was concerned with in-service faculty training programs, on the general topic, "the process of educational change."

The invitation was extended in recognition of the 18 years of experience amassed by HumRRO as an education and training "change agent" for the Department of the Army. The paper was based not only on the HumRRO experience, but also on an extensive review of the literature on the change process. It is being reproduced as a part of the Professional Paper series because of its relevance to both civilian and military training and education.

The HumRRO Professional Paper series was initiated in order to provide permanent record of specialized aspects of HumRRO work, and deposit in the scientific and technical information storage and retrieval systems of the Department of Defense and the Federal Clearinghouse.

FACULTY IN-SERVICE TRAINING PROGRAMS AND THE PROCESS OF EDUCATIONAL CHANGE

Saul Lavisky

An in-service training program is—in my view—a perfect example of educational change. Although there are a number of definitions of the term "educational change," they all seem to imply that between Time 1 and Time 2, some noticeable alteration has taken place in something. Depending upon your focus of attention, that "something" might be the goals, the structure, or the processes of an educational system or subsystem (or some combination of the three).

My understanding of the in-service training program is that it is concerned with enabling those who participate in the program—in this case, your faculty members—to do a better job in their teaching, to upgrade their skills, their knowledge, and/or their attitudes.

The implicit assumption is that by upgrading faculty competence, we will somehow improve student learning. And this, after all, is what it's all about—student learning. I will not challenge that assumption because I believe in the potential efficacy of in-service training programs. But I do like to remember the apocryphal story of the agricultural agent who was calling on farmers in his community to bring them news of improved farming tools and techniques. He ran across one old curmudgeon who showed a complete lack of interest in his message. When the agent persisted, the farmer explained: "I don't *need* to know any more about farming; hell, I ain't farming as good as I *already* know how."

In any event, I hope you will allow me to back off one step from the in-service training program per se to the more fundamental topic of educational change, of which the in-service program is an excellent example. Toward the end of my presentation, I will attempt to focus more clearly on your immediate concerns.

I am certainly not an expert on in-service training programs. I am not even an expert on the educational change process. However, I am a *student* of the educational change process, and perhaps I can contribute something to your deliberations.

I lay claim to the title "student of educational change" on two grounds. First, as a doctoral candidate in education at the University of Maryland, I am majoring in curriculum development and am concentrating on the processes by which new curricula come into being and are disseminated. Second, I am employed by The George Washington University's

Human Resources Research Office, which functions much of the time as an education and training "change agent."[1]

Let me tell you a little about this organization, which we call HumRRO. Some 18 years ago, the Army became concerned that it was not doing enough about the human resources which were entrusted to it—that while it had an active research-and-development program in the field of Army materiel, it was not devoting similar attention to human factors. It was at this time that the Army entered into a contract with The George Washington University for the establishment of an agency that could serve as the focal point for a human factors research-and-development program—a program to study such things as training, education, leadership, motivation, and morale. That agency, HumRRO, was given the general mission of improving human performance in the Army through behavioral and social science research, development, and consultation.

For 18 years, HumRRO has served as the Army's principal Research and Development resource in the fields of training and education. Our organization numbers about 250 employees, of whom about half are research scientists or upper level technical personnel directly involved in research—the rest are support personnel. Our scientists are primarily experimental psychologists, although we also have sociologists, anthropologists, and a number of other disciplines represented on our staff.

We undertake approximately 50 projects for the Army each year and, if I may be allowed a little immodesty, we have been quite successful in helping solve some training and education problems. Many of the reports of our research for the Army have proven interesting and useful to civilian educators; the HumRRO *Bibliography of Publications* lists and describes these reports.

Recently, we have begun to diversify the sponsorship of our research activities. The Post Office Department has sponsored three projects concerned with training their employees to maintain new electronic postal equipment. The Department of Transportation has asked us to conduct a task analysis of automobile driving and to develop empirically derived instructional objectives for driver-education programs. We have recently entered into a contract with New York State to develop a program and an evaluation design for that state's effort to educate handicapped children.

I have gone into some detail about HumRRO primarily as justification for my laying claim to the title of "student of educational change." Now let me mention some of the things I think I have learned about the educational change process as a member of the HumRRO research staff since 1963.

---

[1]The Human Resources Research Office separated itself from The George Washington University on September 1, 1969, and reorganized as the Human Resources Research Organization, an independent, nonprofit corporation with headquarters in Alexandria, Va.

I would contend that man has been aware of the idea of change since Adam first woke up, minus a rib, to find Eve inspecting his garden. Adam must have thought to himself: "Something's decidedly different here this morning!" Heraclitus, the Ionian philosopher, stated the same idea more metaphorically: "You can't step into the same river twice." Down through the ages, commencement speakers have apparently felt unfulfilled without making at least passing reference to the fact that "we are living in an age of rapid change."

In education, we are concerned with *planned* change, with *directed* change. If one accepts the idea that "innovation" refers to a deliberate or specific change, then I think one would have to agree that the topic of change is perhaps the most ubiquitous topic in educational literature today. But we in education are not alone, nor were we even first. Many disciplines, many professions, and many agencies are concerned with planned change. All one has to do to confirm this assessment is to examine the literature of the rural sociologists, cultural anthropologists, psychiatrists, communications specialists, management engineers, and psychologists.

But what do we really know about change? Why are some innovations adopted while others are not? Why are some change agents successful while others are not? How do you move from research to development to trial to implementation? How can an innovation—such as an in-service training program—be introduced into a system and, assuming acceptance, how can it be maintained and nurtured?

Many years ago, Will Rogers said "It ain't what you don't know that'll hurt you; it's what you know that ain't so." While I disagree with the first half of his statement, I heartily endorse the second half. There are a lot of ideas about the change process—some of them quite widely held—that simply are not confirmed by experience. They are not true!

For example, some perfectly sincere people contend that *a good product or a good idea will succeed on its own merits*, that all you have to do is to cast light on the "truth" and good things will automatically follow. Unfortunately, there are too many educational researchers who feel this way. These well-intentioned, but misguided, people believe that if their research reports show a better way of reaching an educational objective, that teachers will automatically tread the new path. Experience shows otherwise!

You are probably all familiar with the studies of Paul Mort and his associates in the late 1930's showing that for American schools to make widespread adoption of a major innovation took 50 years. This is a widely quoted statistic. Less widely quoted was Dr. Mort's assertion that it *first* took 50 years from the time an educational need was identified until an implementable innovation became available. So the total time lag according to Mort was 100 years. We all know that this lag has been cut considerably in recent years, but by how much, we do not know. It is reasonable to expect that the concentrated attention the change process is now receiving will result in even further reductions in the time lag.

We can feel a little better about the education profession when we read a report that appeared in 1963 in the *Journal of the Institution of Electrical Engineers*. This report was concerned with the lag in time between the discovery or invention of a new idea and its technological application. Among the examples cited were the zipper, the self-winding wristwatch, and the fluorescent lamp.

The first patent on a zipper was taken out by a mechnaical engineer in 1893. A firm organized to sell zippers lingered on the edge of bankruptcy until 1932 when the B.F. Goodrich Company adopted zippers as closures for galoshes. Here we have a 40-year time lag.

French watchmakers in the 18th century developed pedometer pocket watches—watches in which the mainspring was wound by the movements of the wearer. In 1922, an English watchmaker applied the idea to wristwatches, but the company he formed "went broke" when too few people would buy his product. In 1939, the Swiss Rolex Watch Company, an established firm, adopted the idea and marketed self-winding watches successfully. This was a time lag of approximately 200 years.

Knowledge of fluorescent materials goes back to 1852. The first low-pressure mercury-vapor lamps were produced in 1901, but it was 1933 before the fluorescent lamp became generally available. Real utilization began in 1940, so we have here a time lag of either 79 or 88 years, depending upon one's interpretation.

What I am suggesting is that neither in education nor in any other field are the discovery and announcement of a new idea sufficient to guarantee its acceptance and utilization—even by those who stand to profit most.

A second misconception about the process of change is that it is linear in nature, that is, that it proceeds in stages from research to development to tryout to adoption to utilization. In this simplistic view of the way things happen, the scientist—searching for truth—discovers and verifies some fact or principle. The technologist seizes the fact or principle, develops it into a product or process for getting things done. Finally, some institution, agency, or individual tests the product or process and, finding that it works, adopts it as his own.

In the words of the Gershwin song, "It ain't necessarily so!"

I would contend that the process of directed change is much less linear than is frequently presumed; that it is, in fact, a complex feedback-type information-processing system in which a *key* aspect is the linkage or coupling between the scientific and technological communities.

There is much evidence to support the view that science and technology are really two separate worlds—that the scientist who produces new knowledge about human learning, for example, has relatively little in common with the technologist who will eventually use that knowledge in producing an educational innovation. They have different methods, different values, and different objectives.

The third item in my listing of things that are believed about the educational change process, but which aren't necessarily so, is *the belief that when you are successful in getting an educational innovation adopted by your school, school system, or college, the job is complete—that no further action is required.* Although this belief may not be expressed in so many words, and might even be denied by an educator who was asked the question point-blank, I think you will agree that we frequently act as though we *did* believe it. Look in the storerooms of schools and colleges across this nation and you'll find countless teaching aids and devices gathering dust. Look into the classrooms and you'll find teachers who, only a year or so ago, were singing the praises of T-Groups, Human Relations sessions, and so forth, but now they have reverted to their old behaviors. Education, for a variety of reasons, has a well-deserved reputation for faddism—for jumping on (and then off) bandwagons.

I would contend that one of the major bars to the successful introduction of educational innovations in American schools and colleges has been the suppositions about educational change that just aren't so. There are, however, a number of other problems of which we ought to be aware.

First and foremost in my book is educational *objectives*. At least since the time of Plato, persons have debated the question: "What ought to be the objectives of education?" It is my personal opinion that we are little advanced—if in truth we are advanced at all—from the debate of Plato's day.

True, we have had numerous pronouncements on educational objectives--some of the names that come quickly to mind are those of John Stuart Mill, Albert North Whitehead, James B. Conant, Admiral Hyman Rickover, Arthur Bestor, and Paul Goodman. Committees, too, have had their say—the Yale Report, the report of the Committee of Ten, the Committee of Fifteen on Elementary Education, the Commission on the Reorganization of Secondary Education, and the Educational Policies Commission.

My reading of these pronouncements has led me to two conclusions: (1) If the statement of educational objectives is relatively specific, it does not command anything approaching a consensus; and (2) if the statement has anything approaching a consensus, then it is so vague and ambiguous as to be practically meaningless as a guide to educational planning.

How useful would you, as a teacher, find the Seven Cardinal Principles of Education: health, command of fundamental processes, worthy home membership, vocation, citizenship, worthy use of leisure time, and ethical character? Or, education for social efficiency, education for social control, education to prepare the young to engage in adult activities.

Perhaps more important, how would you know when you had attained your objective? And how could you possibly be sure your objectives are valid (however you may choose to define that term)? Your decisions

with regard to educational objectives are *critical* because your educational objectives serve as criteria for all your other educational decisions.

For example, it would seem to me to be essential for you to have developed a rather comprehensive and detailed statement of your institution's educational objectives before you embarked on a program of in-service teacher training. It would seem reasonable to expect that the goals or objectives of your in-service training would be derived from your *overall* objectives. How else could you really assess the success or lack of success of your program? How else could you be sure that the skills, knowledge, and attitudes you are trying to develop would be productive rather than counterproductive?

A second problem that inhibits educational change is that, typically, the school system or college doesn't have a "change agent." By that term, I mean a professional person whose job it is to engineer innovations and to influence adoption decisions. The change agent should be a person who is familiar with both the strategy and the techniques of the educational change process. The typical public-school teacher usually possesses neither the research skills nor the necessary habits of scholarship to do the job. At the college level, though they may be skilled at research, very few professors or administrators are sufficiently well-versed in the process of educational change to perform the change agent role satisfactorily.

One potential solution to this problem might be to appoint a Vice President for Innovation (though he might well carry some other title less likely to stir up controversy). His job would be to seek out educational innovations to help solve problems that his fellow administrators and faculty members had identified. Once he'd found likely candidates, he would help test and evaluate them—usually on a "pilot study" scale. And once the innovation was adopted, he would be ready to help nurture and sustain it until it became a regular part of the instructional program.

A third factor that frequently inhibits educational change is the lack of evaluation and feedback. This problem obviously derives from the lack of clear educational objectives. How can you possibly evaluate the efficacy of an educational innovation if you don't have a clear idea of the educational objective it was expected to accomplish? When you don't really know where you're going, it doesn't make a great deal of difference which road you choose to try to get there!

There are numerous other problems that have been found to inhibit the adoption of educational innovations:

(1) The *cost* of the innovation. Even though it may give promise of reducing costs in the long-run, or of increasing the quality of the school or college graduate, the general public—Mr. and Mrs. John Taxpayer—may be unwilling to foot the bill.

(2) The innate *conservatism* of the educational establishment.

(3) The failure of the adopting agency to *adapt the innovation* specifically to fit its own situation. Too frequently, innovations which worked "over there" are picked up intact and transferred into new—and sometimes dissimilar—situations.

(4) Most innovations that could make a real difference in the education of students require *changes in the behavior* of school personnel—and it is much more difficult to accomplish this than it is to buy new equipment or to make other physical changes.

(5) We don't really understand how *societal forces* act to influence curriculum decisions and other decisions in education.

(6) We don't really know how to translate knowledge about the *psychological characteristics* of learners into practical, practicable educational innovations.

I could go on down the catalog of problem areas, but it is not my purpose to enumerate difficulties. Instead, I want to take a positive view of the educational change process and to say that, although there is a great deal that we do not know about this process, there is also a great deal that we *do* know.

Dr. William A. McClelland, Associate Director of HumRRO, presented a paper at the 1968 annual meeting of the American Psychological Association in which he reviewed the literature on the change process. He reported finding descriptions of the change process presented by various authors as *models* of this process; models—

(1) For the process in applied research and development, which includes elements of the change process;
(2) For curriculum or other change at all educational levels;
(3) For modifying and improving business and industrial practices;
(4) For effecting change in other cultures;
(5) For effecting change in community settings;
(6) For the role of the advocate of innovation;
(7) For the role of the potential adopter or receiver of the innovation;
(8) For the role of the linker (he who travels the road between research and practice);
(9) For the information retrieval systems to facilitate change; and
(10) For the collaborative process involving the system and the change agent (1).

But Dr. McClelland's examination of all these models (descriptions) led him to the conclusion—which I share—that it is, as yet, too early to do more than wish for a general, inclusive model of the change process, much less a general theory of change.

In other words, there is, as yet, no *best* way to manage organizational change in a complex enterprise like the junior college.

Henry Brickell of the New York State Department of Education has proposed what appears to me to be an extremely reasonable approach:

(1) First, we look at the needs of the individual student and of society and determine whether our graduates are performing in such a way as to satisfy these needs. If they are, then we can continue our present program. If they are not, then we need to change our program.

(2) If we find that we ought to change our program, we must first analyze the needs we have identified to determine what "desired learning" will help our students meet these needs. Then, we compare the *actual* learning with the *desired* learning to identify gaps.

(3) When we find gaps, we look around for alternative programs that will help our students meet these needs (that is, fill the gaps). (2)

The alternative programs, of courses of action, to which we turn will require one of five different *levels of change*, if Robert Chin is correct. Dr. Chin identifies these levels, in ascending order of difficulty, as:

(1) Substitution—where one element is substituted for another element already present.

(2) Alteration may involve a minor change but one that can have unforeseen systemic effect. For example, what if a new workbook requires additional laboratory space and equipment with which the teacher is not familiar?

(3) Perturbations and Variations in the client system. These are fairly major changes in system operation, but they are relatively temporary and the system soon reaches a point of equilibrium.

(4) Restructuring is the fourth level of change; it represents fundamental changes in the structure of the system. This is basic social change, and an example might be adoption of a new mathematics or science curriculum—an entire program of instruction.

(5) Value Orientation. This is the final, most complex type of change. In our society, values are extremely stable, and they are extremely difficult to change. I would imagine, for example, that an instructor who comes to the junior college from a four-year institution to which students were admitted or denied admission on the basis of a restrictive admission policy would find considerable difficulty adjusting to the junior college's open-door admission policy. (3)

Chin postulates that there are different principles of change, and different variables, involved at each of these five levels. If he is correct—and I suspect that he is—then it means that the change agent who wishes to provide viable professional alternatives to the educational practitioner will have to vary his strategy and his techniques according to the level of change involved.

This business of choosing the best means of bringing about educational change frequently sounds, when one examines the literature, as

if the change agent were about to engage in a battle, or at the very least, in psychological warfare. Let me illustrate.

Egon Guba, Director of the National Institute for the Study of Educational Change, recently suggested that the change agent pay particular attention to the educational practitioner he is attempting to change. This would-be innovation adopter can be viewed as:

> A rational entity who can be convinced.
> An untrained entity who can be taught.
> A psychological entity who can be persuaded.
> An economic entity who can be rewarded or deprived.
> A political entity who can be influenced.
> A bureaucratic functionary who can be compelled.
> A professional who can be professionally obligated. (4)

In addition, Dr. Guba says that there are essentially six *techniques* that can be used in reaching potential adopters:

> Tell. Communicating by written or spoken words.
>
> Show. Direct confrontation with the phenomena of interest.
>
> Help. Direct involvement of the change agent in the affairs of the adopter, on the adopter's terms—consultation, service, troubleshooting, and so forth.
>
> Involve. Enlisting the adopter in the development, testing, or packaging of the innovation.
>
> Train. Familiarize the adopter with the proposed innovation; help him increase his skills; change his attitudes.
>
> Intervene. The change agent mandates certain actions, inserts control mechanisms. (4)

Having provided us with a taxonomy of ways of viewing the potential adopter and a catalog of techniques for interacting with the adopter, Guba then leaves us with the critical question. How do we decide which technique to use with a *particular* adopter? The answer—such as it is—is that we simply don't know. But at least Guba has provided us with a framework within which we can attempt to determine—scientifically, if possible; anecdotally, if not—how best to proceed pending development of a genuine, first-class theory of change.

We can take some modest comfort from the fact that planned, directed change *is* taking place in the United States despite our lack of knowledge about the change process. Henry Brickell recently compiled a characteristic "set of conditions" that seemed to exist where curriculum innovations had been introduced successfully into ongoing instructional programs.

> (1) There was available a group of highly intelligent people with differentiated and specialized roles.
>
> (2) The development effort ordinarily was addressed to a limited problem and was intended to produce a usable solution.

(3) Time was available for the task and special places were created for the work.

(4) Developers could produce materials and equipment they needed.

(5) Developers kept in touch with similar efforts being conducted elsewhere, but they were free to pursue any approach that appeared promising.

(6) They tried the program out in regular classrooms until they were satisfied with it.

(7) They could anticipate some personal recognition for their achievement. (2)

In HumRRO, we recently conducted an extensive search of our files and our recollections to determine why some of our research products had been utilized by the Army while others—which we believed would have been equally efficacious—had not. Among the characteristics of unsuccessful utilization efforts were the following:

(1) Poor Communication. Neither our research reports nor our oral briefings communicated the validity and the operational value of the product or process.

(2) Lack of Timeliness. The product did not meet a valid, contemporary requirement. It was too late, too early, or too tangential.

(3) Too Drastic. Too many changes in operating procedures were required; training would be shortened or lengthened too much.

(4) Lack of Command Support. "Somebody up there" didn't like us, or our product, in a particular instance.

(5) Cost. Funds and personnel required had not been programed and could not be obtained.

(6) Lack of Engineering Capability. The Army experts needed to translate the research findings into operational terms and content did not exist or were not available.

(7) Policy Problem. There was a lack of doctrine under which to fit a new or improved training or operational capability.

(8) Insufficient Salesmanship. HumRRO did not devote enough additional time or money to "selling" the product, believing that this was not the job of a research agency.

(9) Tradition. The product was perceived to attack current practices, individual competence, "sacred cows," tradition, or long-accepted doctrine.

For those products and/or processes that *were* adopted by the Army, the opposite of many of these characteristics prevailed:

(1) Timeliness. The product filled a recognized instructional gap; it was relevant to a planned or ongoing revision.

(2) Command Interest. There was a strong operational command interest, including that of a subordinate command. To put it another way, there was strong interest at both the management and working levels.

(3) Produc. Engineering. The end-product was a plug-in item, specifically engineered for a given situation, requiring little Army effort to adapt it to the operational setting and requiring no doctrinal changes.

(4) Concreteness. A material item, such as a complete lesson plan, program of instruction, or a training device with a user handbook, was provided.

(5) Zeitgeist (for want of a better term). Some other service, foreign army, or civilian institution had accepted the product or a similar one. It was not excessively novel.

(6) Personal Interest. An individual officer or group of officers associated with HumRRO became convinced of the worth of the product and were willing to serve as forceful and dogged proponents. (5)

I am not prepared to say how comparable the HumRRO relationship with the Army is to the relationship of a typical change agent with a typical educational institution or system; I believe that there are more parallels than there are differences, but my experience is limited.

What has all this to do with your present interest in initiating in-service training programs for your faculties? Perhaps if you view the program as an educational innovation, as an instance of planned and directed educational change, some of the warnings and some of the suggestions that I have passed along to you might prove useful.

It is quite possible that the institutions you represent will already have formulated specific, detailed educational objectives. From what I know about the junior college situation—particularly the extreme diversity of purposes that I see commonly associated with your type of educational institution—and on the basis of my understanding that you all represent *new* junior colleges, I would guess that this is not the case.

Based on statements of the authorities I have cited, I would have to suggest that the formulation of overall educational objectives should, reasonably, precede any attempt to introduce *any* innovations, such as in-service training programs.

From an analysis of any gaps that might exist between what is expected of your graduates and what your graduates can actually do and know, you will be able to identify any unmet needs. You are, even then, still not at a stage where you should begin to consider the in-service training program.

Having identified any unmet needs, you are now in a position to pinpoint your educational problem; here, I would define a "problem" as being a difficulty in meeting an educational need. This is a

tricky area because you must be sure that you have identified a *real* problem (or problems) that prevent your institution from meeting the need.

Next, you consider alternative solutions to the problems you have defined. A "solution" in this context is a series of actions that you can take to eliminate the problem and thereby achieve the desired state of affairs. On cost/effectiveness, or on other grounds, you must determine which alternative solution promises to be the *best* in some way. At this stage, you *may* find that the in-service training program is exactly what the doctor ordered.

The next step is *implementation*—putting the alternative solution into effect.

The final step in the cycle (and I call it a cycle because it may well have to be repeated) is *evaluation*—the process of determining to what extent the new product or process is achieving the objectives toward which it is directed.

It is this systematic approach to the solution of educational problems that holds promise for improving both the process and the product of the junior college today and tomorrow.

LITERATURE CITED

1. McClelland, William A. *The Process of Effecting Change*, Presidential address, Division of Military Psychology of the American Psychological Association, San Francisco, Calif., September 1968; issued as HumRRO Professional Paper 32-68, October 1968.

2. Brickell, Henry M. "The Role of Local School Systems in Change," in *Perspective on Educational Change*, Richard I. Miller (ed.) Appleton-Century-Crofts, New York, 1967, pp. 76-100.

3. Chin, Robert. "Some Ideas on Changing," *ibid.*, pp. 325-340.

4. Guba, Egon G. "Diffusion of Innovations," *Educational Leadership*, vol. 25, no. 4, January 1968, pp. 292-295.

5. Lyons, J. Daniel. *Factors Influencing Utilization of Research Findings in Institutional Change*, paper for annual meeting of Southeastern Psychological Association, New Orleans, La., March 1966; issued as HumRRO Professional Paper 2-66, April 1966.

ADDITIONAL REFERENCES

Bennis, Warren G., Benne, Kenneth D., and Chin, Robert (eds.) *The Planning of Change: Readings in the Applied Behavioral Sciences*, Holt, Rinehart and Winston, Inc., New York, 1961.

Brickell, Henry M. *Organizing New York State for Educational Change*, New York State Department of Education, Albany, N.Y., 1961.

Eidell, T.L., and Kitchell, Joanne M. (eds.) *Knowledge Production and Utilization in Educational Administration*, UCEA and Center for the Advanced Study of Educational Administration, Portland, Ore., 1968.

Hood, Paul D. *Implementation and Utilization of the Leader Preparation Program*, HumRRO Technical Report 67-2, March 1967.

Miles, M.B. (ed.) *Innovation in Education*, Bureau of Publications, Teachers College, Columbia University, New York, 1964.

Richland, M. *Traveling Seminar and Conference for the Implementation of Educational Innovations*, Technical Memorandum 2691, System Development Corporation, Santa Monica, Calif., October 1965.

Rogers, E.M. *Diffusion of Innovation*, The Free Press, Glencoe, Ill., 1962.

Vallance, Theodore R., and Crawford, Meredith P. "Identifying Training Needs and Translating Them Into Research Requirements," in *Training Research and Education*, Glaser, Robert (ed.), University of Pittsburgh Press, Pittsburgh, Pa., January 1962.

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY *(Corporate author)*
Human Resources Research Organization (HumRRO)
300 North Washington Street
Alexandria, Virginia 22314

2a. REPORT SECURITY CLASSIFICATION
Unclassified

2b. GROUP

3. REPORT TITLE
FACULTY IN-SERVICE TRAINING PROGRAMS
AND THE PROCESS OF EDUCATIONAL CHANGE

4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)*
Professional Paper

5. AUTHOR(S) *(First name, middle initial, last name)*
Saul Lavisky

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
December 1969	16	13

8a. CONTRACT OR GRANT NO.	9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO.	Professional Paper 38-69
c.	9b. OTHER REPORT NO.(S) *(Any other numbers that may be assigned this report)*
d.	

10. DISTRIBUTION STATEMENT
Distribution of this document is unlimited.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
Presentation at workshop of American Assn. of Junior Colleges, Airlie House, Warrenton, Va., July 1969.	

13. ABSTRACT

In this paper the author indicates the importance of improving the understanding of the process of change and summarizes some of the relevant literature on the innovation process in education. The role of a "change agent" and techniques for innovation in education and training are described.

DD FORM 1 NOV 68 1473

Unclassified

Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Change Agents						
Change Process						
Educational Change						
Educational Research						
Innovation Literature						
Innovation Techniques						
In-Service Training						